

# Notice of Allowability

Application No.

10/689,660

Examiner

Tiffany A. Fetzner

Applicant(s)

TSCHIRKY ET AL.

Art Unit

2859

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 03/14/2005 and the telephonic interview of 05/11/2005.
2. ☒ The allowed claim(s) is/are Examiner amended claims 1-20.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☒ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☒ to Paper No./Mail Date 12/15/2004.
    - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 05/12/2005.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 05/12/2005.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### **Examiner's Amendment**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with **Attorney Paul Vincent Reg. No. 37,461** on May 11<sup>th</sup> 2005.
3. The application has been amended as follows:

**A) Replace claim 1 of the March 14<sup>th</sup> 2005 amendment with the following  
Examiner amended claim 1:**

**Claim 1** --- A nuclear magnetic resonance (NMR) spectrometer for investigating a liquid sample in a sample tube, the NMR spectrometer comprising:

a sample bushing surrounding the sample tube, said sample bushing having a bore into which one end of the sample tube is inserted with close tolerance, said sample bushing being substantially cylindrical with said bore extending along a cylinder axis thereof, said sample bushing having at least one groove fashioned externally on an outer surface of said sample bushing; and

a gripping device in cooperation with said sample bushing, said gripping device having at least three gripping fingers which engage said at least one groove of said sample bushing by pressing onto two outer edges of said groove in a closed configuration of said gripping device. ---

**B) Replace claim 3 of the March 14<sup>th</sup> 2005 amendment with the following  
Examiner amended claim 3:**

**Claim 3** --- The NMR spectrometer of **claim 1**, wherein each of said gripping fingers has a conical or rounded projection which is oriented radially inwardly towards

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said cylinder axis of said sample bushing in abutment **with** said two outer edges of said groove. ---

**C) Replace claim 4 of the March 14<sup>th</sup> 2005 amendment with the following**

**Examiner amended claim 4:**

**Claim 4** --- The NMR spectrometer of **claim 1**, further comprising an expanding cone disposed inside said gripping device enabling upward and downward motion therein, said cone having a conical surface at a lower end thereof that accommodates spreading of said gripping fingers. ---

**D) Replace claim 5 of the March 14<sup>th</sup> 2005 amendment with the following**

**Examiner amended claim 5:**

**Claim 5** --- The NMR spectrometer of **claim 1**, wherein said sample bushing defines a press fit into which the sample glass is insertable in a gas-tight manner. ---

**E) Replace claim 6 of the March 14<sup>th</sup> 2005 amendment with the following**

**Examiner amended claim 6:**

**Claim 6** --- The NMR spectrometer of **claim 1**, wherein said sample bushing has a conical bore permitting introduction of an injection needle of a filling device. ---

**F) Replace claim 7 of the March 14<sup>th</sup> 2005 amendment with the following**

**Examiner amended claim 7:**

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**Claim 7** --- The NMR spectrometer of **claim 1**, further comprising a closing ball that seals said sample bushing in a liquid or gas-tight fashion. ---

**G) Replace claim 10 of the March 14<sup>th</sup> 2005 amendment with the following Examiner amended claim 10:**

**Claim 10** --- The NMR spectrometer of **claim 1**, wherein said sample bushing has an identification coding. ---

**H) Replace claim 11 of the March 14<sup>th</sup> 2005 amendment with the following Examiner amended claim 11:**

**Claim 11** --- The NMR spectrometer of **claim 10**, wherein said identification coding is a data matrix with data identifying the sample. ---

**I) Replace claim 12 of the March 14<sup>th</sup> 2005 amendment with the following Examiner amended claim 12:**

**Claim 12** --- The NMR spectrometer of **claim 1**, wherein said sample bushing has an alphanumerical marking, which can be visually read in determining a position where the sample glass is processed. ---

**J) Replace claim 13 of the March 14<sup>th</sup> 2005 amendment with the following Examiner amended claim 13:**

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**Claim 13** --- The NMR spectrometer of **claim 12**, further comprising a container within which the sample is positioned by utilizing said marking. ---

**K) Replace claim 15 of the March 14<sup>th</sup> 2005 amendment with the following Examiner amended claim 15:**

**Claim 15** --- The NMR spectrometer of **claim 1**, wherein said at least one groove is formed as a continuous unbroken centering groove which extends around an entire periphery of said sample bushing. ---

**L) Replace claim 17 of the March 14<sup>th</sup> 2005 amendment with the following Examiner amended claim 17:**

**Claim 17** --- The NMR spectrometer of **claim 16**, wherein each one of said several grooves extends around an entire periphery of said sample bushing. ---

**M) Replace claim 19 of the March 14<sup>th</sup> 2005 amendment with the following Examiner amended claim 19:**

**Claim 19** --- The NMR spectrometer of **claim 18**, wherein said outer diameter is 3mm to 8mm. ---

**N) Replace claim 20 of the March 14<sup>th</sup> 2005 amendment with the following Examiner amended claim 20:**

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**Claim 20** --- The sample bushing of the NMR spectrometer of claim 1, wherein said groove is formed such that said gripping fingers of said gripping device engage at least three groove locations distributed radially around said outer surface of said sample bushing, retaining said sample bushing while pressing onto said two outer edges of said groove when said gripping device is closed. ---

The following is an examiner's statement of **Reasons for Allowance**:

4. With respect to **examiner amended independent claim 1**: This claim is considered to be allowable over the **prior art of record** by the examiner because the **prior art of record** does not disclose or suggest the combinational features of “**an NMR spectrometer comprising “... a sample bushing surrounding the sample tube, said sample bushing having a bore into which one end of the sample tube is inserted with close tolerance, said sample bushing being substantially cylindrical with said bore extending along a cylinder axis thereof, said sample bushing having at least one groove fashioned externally on an outer surface of said sample bushing; and a gripping device in cooperation with said sample bushing, said gripping device having at least three gripping fingers which engage said at least one groove of said sample bushing by pressing onto two outer edges of said groove in a closed configuration of said gripping device”** in combination with the remaining features of this claim. It is the combination of the claim limitations taken as a whole that constitutes both the novelty and non-obviousness of applicant's examiner amended independent claim.

5. The **prior arts of record** **Fattinger et al., Hofmann et al., '079 ; '856; '0196023; Warden et al., '317; '0135372; Leung et al., Wand et al., McKenna and Tschirky et al., '740; '0196022;** lack teaching the combination of features set forth in applicant's examiner amended claim 1 because in the prior art either the sample tube is gripped directly (i.e. **Hofmann et al., '079 ; '856; '0196023; Warden et al., '317; '0135372; Leung et al., Wand et al., McKenna and Tschirky et al., '740; '0196022;**) without the required sample bushing, or the grooves of the sample bushing which interact with the

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gripping device are located "inside" the sample bushing, as opposed to the at least one groove being fashioned externally on an outer surface of the sample bushing. [See **Fattinger et al.**, and the Remarks on pages 9 through 10 of the March 14<sup>th</sup> 2005 amendment. Where applicant persuasively argues why the prior arts of record teach away from and are opposite to the applicant's inventive NMR sample bushing and gripping device that works well for the automatic changing of NMR samples.]

6. The examiner agrees with applicant's arguments found on pages 9 through 10 of the March 14<sup>th</sup> 2005 amendment and response as to why the **Hofmann et al.**, '079; '0196023; and **Fattinger et al.**, references actually teach away from the claimed invention. The examiner amends claim 1, merely correct antecedent basis, ensure a positive recitation of the claimed features and grammatically clarify that the at least one groove is "fashioned externally on an outer surface of said sample bushing" as opposed to being fashioned on the "inside of" the sample bushing as taught by **Fattinger et al.**, or having the gripping device in direct contact with the sample tube as in the **Hofmann et al.**, '079 ; '856; '0196023; **Warden et al.**, '317; '0135372; **Leung et al.**, **Wand et al.**, **McKenna** and **Tschirky et al.**, '740; '0196022 references. The examiner notes that because the gripping device grips the sample bushing as opposed to the sample tube that there is less chance of the sample tube being broken and its sample damaged or contaminated by the gripping device. Additionally the external grooves on the sample bushing allow an easy inspection of the sample bushings for damaged components, where as the internal grooves of prior art bushings are not easily accessible for inspection, and prevent the bushings from assisting in sample identification. Therefore, applicant's automatic sample tube "NMR spectrometer", with its novel "sample bushing and gripping device" is considered to be allowable over the prior arts of record.

7. With respect to **dependent examiner amended claims 3-7, 10-13, 15, 17, 19, 20 and dependent claims 2, 8-9, 14, 16, and 18**: These claims are allowable over the **prior art of record** because each of these dependent claims, depend on or from, **allowable examiner amended independent claim 1**. Therefore the same reasons for

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allowance that apply to **examiner amended independent claim 1** also apply to each of these dependent claims and need not be reiterated.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### **Examiner's Comment**

##### ***Priority***

9. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

##### ***Drawings***

10. See the Notice of Official draftsperson review PTO form 948 attached to the Office action of December 15<sup>th</sup> 2004.

11. A New set of corrected drawings are required in this application because the official draftsperson has objected to the drawings submitted **10/22/2003 A complete set of NEW FORMAL DRAWINGS** including any and all examiner approved informal drawing changes, (i.e. the drawings submitted 3/14/2005 which are approved by the examiner are considered to be proposed informal drawing changes, not a submission of formal drawings) which have occurred during this examination are now required. [See the PTO 948 form of the Official Draftsperson's Review from the December 15<sup>th</sup> 2004 Office action.]

12. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings.

13. The corrected drawings are required in reply to the Office action to avoid **abandonment** of the application. The requirement for a complete set of corrected FORMAL drawings will not be held in abeyance, and is now required.

##### ***Prior Art of Record***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



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- A) **Tschirky et al.**, US patent 6,686,740 B2 issued February 3<sup>rd</sup> 2004, filed March 4<sup>th</sup> 2002.
- B) **Tschirky et al.**, US patent application publication 2002/0196022 A1 published December 26<sup>th</sup> 2002; filed March 4<sup>th</sup> 2002; which corresponds to **Tschirky et al.**, US patent 6,686,740 B2 issued February 3<sup>rd</sup> 2004.
- C) **Warden et al.**, US patent 6,563,317 B2 issued May 13<sup>th</sup> 2003, filed March 4<sup>th</sup> 2002.
- D) **Warden et al.**, US patent application publication 2002/0135372 A1 published September 26<sup>th</sup> 2002; filed March 4<sup>th</sup> 2002; which corresponds to **Warden et al.**, US patent 6,563,317 B2 issued May 13<sup>th</sup> 2003.
- E) **Leung et al.**, US patent 6,812,706 B2 issued November 2<sup>nd</sup> 2004, filed March 12<sup>th</sup> 2003.
- F) **Hofmann et al.**, US patent 5,517,856 issued May 21<sup>st</sup> 1996.
- G) **Wand et al.**, US patent 6,362,624 B1 issued March 26<sup>th</sup> 2002 ; filed October 27<sup>th</sup> 1999.
- H) **McKenna** US patent 4,859,949 issued August 22<sup>nd</sup> 1989.
- I) **Hofmann et al.**, US patent 6,741,079 B2 issued May 24<sup>th</sup> 2004; filed June 5<sup>th</sup> 2002.
- J) **Hofmann et al.**, US patent application publication US 2002/0196023 A1 published December 26<sup>th</sup> 2002; filed June 5<sup>th</sup> 2002, which corresponds to **Hofmann et al.**, US patent 6,741,079 B2.
- K) **Fattinger et al.**, US patent application publication 2003/0209091 A1 published November 13<sup>th</sup> 2003, filed **May 9<sup>th</sup> 2003**.
- L) **Tschirky et al.**, US patent application publication 2005/0062474 A1 published March 24<sup>th</sup> 2005; filed October 22<sup>nd</sup> 2003; which corresponds to applicant's instant application as originally filed, which is noted for the purposes of a complete record only. This reference is not available as prior art against the claims of the instant application.

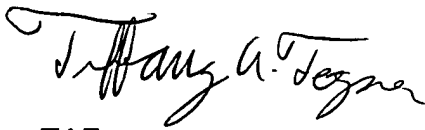
### **Conclusion**

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tiffany Fetzner whose telephone number is: (571) 272-

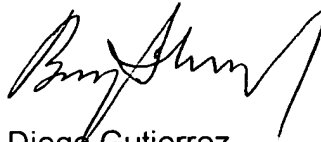
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2241. The examiner can normally be reached on Monday-Thursday from 7:00am to 4:30pm., and on alternate Friday's from 7:00am to 3:30pm.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez, can be reached at (571) 272-2245. The **only official fax phone number** for the organization where this application or proceeding is assigned is **(703) 872-9306**.



TAF  
May 12, 2005



Diego Gutierrez  
Supervisory Patent Examiner  
Technology Center 2800